

What is claimed is:

1. A transmissive spatial light modulator having a light-transmission area, comprising:

a transparent substrate;

a pixel drive circuit provided on the transparent substrate to form an area other than the light-transmission area; and

a transmissive light modulation section including a micro-electromechanical element, the transmissive light modulation section being controlled by the pixel drive circuit and being provided above the pixel drive circuit.

2. The transmissive spatial light modulator according to claim 1, further comprising a microlens array provided integrally on at least an entrance side of an incident light in the transmissive light modulation section so that at least part of the incident light is converged on at least one of the light-transmission area and the light modulation section.

3. A method of manufacturing a transmissive spatial light modulator by use of an SOI substrate comprising a first silicon layer, an insulation layer and a second silicon layer in this order, the method comprising:

forming a pixel drive circuit on the insulation layer, the pixel drive circuit including at least part of the second

silicon layer;

eliminating the first silicon layer while a portion other than the first silicon layer is supported;

attaching a transparent substrate to the location from which the first silicon layer was removed; and

forming a transparent light modulation section including a micro-electromechanical element above the pixel drive circuit.

4. The method of manufacturing a transmissive spatial light modulator according to claim 3, wherein a microlens array is provided integrally on at least an entrance side of an incident light in the transmissive light modulation section; and wherein at least part of the incident light is converged on at least one of a light-transmission area of the transmissive spatial light modulator and the light modulation section.

5. A method of manufacturing a transmissive spatial light modulator by use of an SOI substrate comprising a first silicon layer, an insulation layer and a second silicon layer in this order, the method comprising:

forming a pixel drive circuit including at least part of the second silicon layer on the insulation layer;

attaching a transparent substrate to the pixel drive circuit;

eliminating the first silicon layer; and

newly forming a transmissive light modulation section including a micro-electromechanical element in the area from which the first silicon layer was removed.

6. The method of manufacturing a transmissive spatial light modulator according to claim 5, wherein a microlens array is provided integrally on at least an entrance side of an incident light in the transmissive light modulation section; and wherein at least part of the incident light is converged on at least one of a light-transmission area of the transmissive spatial light modulator and the light modulation section.

7. A method of manufacturing a transmissive spatial light modulator, comprising:

forming a pixel drive circuit on a transparent substrate through a thin-film transistor forming process; and

forming a transmissive light modulation section including a micro-electromechanical element above the pixel drive circuit.

8. The method of manufacturing a transmissive spatial light modulator according to claim 7, wherein a microlens array is provided integrally on at least an entrance side of an incident light in the transmissive light modulation section; and wherein

at least part of the incident light is converged on at least one of a light-transmission area of the transmissive spatial light modulator and the light modulation section.